IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Haapalahti et al

Patent No.: 7,096,565
Issued: August 29, 2006

Serial No.: 10/600,151
Filed: June 19, 2003

Conf. No.: 8990
Customer No.: 33123

For: FLANGED INNER CONDUCTOR COAXIAL RESONATORS

Art Unit: 3729

Examiner: Paul D. Kim

CERTIFICATE OF MAILING

I hereby certify that this correspondence and the attached papers are being deposited with the United States Postal Service with sufficient postage as first class mail on the date indicated below and addressed to:

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

9-7-06
Date

Jennifer Vail
Signature

REQUEST FOR CERTIFICATE OF CORRECTION PURSUANT TO 37 C.F.R. § 1.322

Attn: Certificate Of Correction Branch
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Pursuant to 37 C.F.R. § 1.322, the patentee respectfully requests that a Certificate of Correction be issued for the above-referenced patent.

REMARKS

A Certificate of Correction (Form PTO-1050), in duplicate, is included with this Request. The errors appear to be that of the USPTO, and it is believed no fee is due. If it is determined that a fee is due, the Office is hereby authorized to charge the fee to Deposit Account No. 50-1213.

This Certificate of Correction seeks to correct obvious typographical and grammatical errors in the specification of the issued patent.

During prosecution, a "Preliminary Amendment" (copy enclosed) was filed via Express Mail on October 3, 2003. The return postcard (copy enclosed) confirmed that the OIPE received the Preliminary Amendment on October 3, 2003. The amendments to specification

from the Preliminary Amendment are not reflected in the printed patent. In addition, in the Notice of Allowance dated April 18, 2006, the Examiner made amendments to Claim 9, which are not correctly reflected in the printed patent.

No new matter has been added. Approval of the proposed corrections and issuance of the Certificate of Correction are respectfully requested.

Respectfully submitted,
Heller Ehrman LLP

Steven A. Moore
Registration No. 55,462

Attorney Docket No. 42792-6196
Address all correspondence to:
Customer No. 33123
Heller Ehrman LLP
4350 La Jolla Village Drive, 7th Floor
San Diego, California 92121
Telephone: (858) 450-8400 / Facsimile: (858) 450-8499

SD 834142 v1(42792.6196)

PTO/SB/ 44 (04-05)
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Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

(Also Form PTO-1050)

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 7,096,565

APPLICATION NO. : 10/600,151

ISSUE DATE : August 29, 2006

INVENTOR(S) : Haapalahti et al

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

IN THE SPECIFICATION

Column 1, lines 20-33, please amend as follows:

--Coaxial resonators can provide improved Q-values over other resonator construction techniques. FIG. 1 is a side elevation of a typical coaxial resonator 100 of conventional construction. The FIG. 1 resonator includes an inner conductor 102 placed within a cavity 104 that is formed from an enclosure having sidewalls 106, a bottom wall 108, and a top wall 110. The interior surface 111 of the enclosure cavity 104 is conductive. The inner conductor 102 is attached to the enclosure at the bottom wall 108, thereby providing an electric short-circuit path between the ~~cavity enclosure~~ enclosure cavity 104 and the inner conductor 102. The free end 112 of the inner conductor 102 is an open-circuit, providing capacitive coupling between the inner conductor and the inner surface 111 of the ~~cavity enclosure~~ enclosure cavity.--

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ISSUE DATE	:	August 29, 2006
INVENTOR(S)	:	Haapalahti et al

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

IN THE SPECIFICATION

Column 7, lines 9-40, please amend as follows:

--FIG. 13 is a cross section of another embodiment of the calibration tool. In the FIG. 13 embodiment of the calibration tool 610', there is an opening 620' in the calibration tool 610' adapted to receive a retractable support 652. The retractable support 652 is used to locate ~~located~~ the expanding tool 608 a desired distance from the stepped surface 624 of the calibration tool 610'. When used in making planar flanges on an inner conductor of a coaxial resonator, the support 652 is positioned to accept the expanding tool 608. As the conductive body 602 is pressed over the expanding tool 608, the support 652 exerts sufficient force to maintain the expanding tool 608 in a desired position. After the conductive body 602 has been flanged a desired amount the expanding tool 608 is not removed. The guide tool 606 is then pressed down onto the flanged area of the conductive body 602. The pressing force of the guide tool 606 used to form a planar transverse surface is sufficient to overcome the force exerted by the support 652, and the expanding tool 608 moves down into the opening 620' of the calibration tool 610'. The movement of the expanding tool 608 down into the opening 620' permits flattening the flange into a desired transverse planar surface. The support 652 can be, for example, a spring, a pneumatic electric or magnetic actuator, or other device that can hold the expanding tool in a desired location during the pressing of the conductive body 602 to form a desired flange and then to allow the expanding tool to move out of the way during the pressing of the guide tool to form a planar surface. The retractable calibration tool 610' can be used in place of the tool 610 shown in FIGS. 9B-9E and 12. A similar substitution applies for the calibration tools in the following description.--

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It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

IN THE SPECIFICATION

Column 13, lines 21-36, please amend as follows:

--FIG. 31 is a flow diagram of a technique of flanging an array of conductive bodies and attaching the array of conductive bodies as inner conductors in at least one cavity in a single procedure. Process flow begins in block 1602, and at block 1604 a tooling plate that includes an array of flanging tools is positioned in a press. At block 1606 a resonator housing or body that includes at least one cavity is placed over the array of flanging tools such that a flanging tool is inside one or more of the cavities. Process flow continues to block 1608, where a plurality of conductive bodies, each with a first and second end, are inserted through a plurality of holes in the corresponding resonator body cavity walls. The hole in each cavity wall corresponds to the location of the flanging tools so that each flanging tool enters an opening in the first end of an associated conductive body. Flow continues to block 1610.--

IN THE CLAIMS

Please amend Claim 9, as follows:

9. An inner conductor as defined in claim 6, wherein attaching the second end of the conductive body to an inner surface of a cavity wall comprises riveting.

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--Coaxial resonators can provide improved Q-values over other resonator construction techniques. FIG. 1 is a side elevation of a typical coaxial resonator 100 of conventional construction. The FIG. 1 resonator includes an inner conductor 102 placed within a cavity 104 that is formed from an enclosure having sidewalls 106, a bottom wall 108, and a top wall 110. The interior surface 111 of the enclosure cavity 104 is conductive. The inner conductor 102 is attached to the enclosure at the bottom wall 108, thereby providing an electric short-circuit path between the ~~cavity enclosure~~ enclosure cavity 104 and the inner conductor 102. The free end 112 of the inner conductor 102 is an open-circuit, providing capacitive coupling between the inner conductor and the inner surface 111 of the ~~cavity enclosure~~ enclosure cavity.--

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Column 7, lines 9-40, please amend as follows:

--FIG. 13 is a cross section of another embodiment of the calibration tool. In the FIG. 13 embodiment of the calibration tool 610', there is an opening 620' in the calibration tool 610' adapted to receive a retractable support 652. The retractable support 652 is used to locate ~~located~~ the expanding tool 608 a desired distance from the stepped surface 624 of the calibration tool 610'. When used in making planar flanges on an inner conductor of a coaxial resonator, the support 652 is positioned to accept the expanding tool 608. As the conductive body 602 is pressed over the expanding tool 608, the support 652 exerts sufficient force to maintain the expanding tool 608 in a desired position. After the conductive body 602 has been flanged a desired amount the expanding tool 608 is not removed. The guide tool 606 is then pressed down onto the flanged area of the conductive body 602. The pressing force of the guide tool 606 used to form a planar transverse surface is sufficient to overcome the force exerted by the support 652, and the expanding tool 608 moves down into the opening 620' of the calibration tool 610'. The movement of the expanding tool 608 down into the opening 620' permits flattening the flange into a desired transverse planar surface. The support 652 can be, for example, a spring, a pneumatic electric or magnetic actuator, or other device that can hold the expanding tool in a desired location during the pressing of the conductive body 602 to form a desired flange and then to allow the expanding tool to move out of the way during the pressing of the guide tool to form a planar surface. The retractable calibration tool 610' can be used in place of the tool 610 shown in FIGS. 9B-9E and 12. A similar substitution applies for the calibration tools in the following description.--

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SEP 13 2006

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Column 13, lines 21-36, please amend as follows:

--FIG. 31 is a flow diagram of a technique of flanging an array of conductive bodies and attaching the array of conductive bodies as inner conductors in at least one cavity in a single procedure. Process flow begins in block 1602, and at block 1604 a tooling plate that includes an array of flanging tools is positioned in a press. At block 1606 a resonator housing or body that includes at least one cavity is placed over the array of flanging tools such that a flanging tool is inside one or more of the cavities. Process flow continues to block 1608, where a plurality of conductive bodies, each with a first and second end, are inserted through a plurality of holes in the corresponding resonator body cavity walls. The hole in each cavity wall corresponds to the location of the flanging tools so that each flanging tool enters an opening in the first end of an associated conductive body. Flow continues to block 1610.--

IN THE CLAIMS

Please amend Claim 9, as follows:

9. An inner conductor as defined in claim 6, wherein attaching the second end of the conductive body to an inner surface of a cavity wall comprises riveting.

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Client #: 21860-6196 (DAH:ark)

Enclosures: Transmittal Letter, 1 page original and in duplicate; Preliminary Amendment, 17 pages; This Postcard.

For: FLANGED INNER CONDUCTORS COAXIAL RESONATORS

Applicant(s):. T. Haapalahi
Application No.: 10/600,151 – **Filed:** 6/19/03

SEP 13 2006

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Haapalahi, T.
Serial No.:	10/600,151
Customer No.:	33123
Confirmation No.:	8990
Filed:	June 19, 2003
For:	*FLANGED INNER CONDUCTORS COAXIAL RESONATORS*
Art Unit:	2817

CERTIFICATE OF MAILING BY "EXPRESS MAIL"

"Express Mail" Mailing Label Number EV338078538US

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PO Box 1450
Alexandria, VA 22313-1450

10/3/03
Date

Jonathan Ong

TRANSMITTAL LETTER

Mail Stop Non-Fee Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Transmitted herewith is a Preliminary Amendment for filing in the above-identified application. Because this Preliminary Amendment is filed prior to receipt of a first office action on the merits, no fee is due. However, should it be determined that a fee for filing these papers is required, the Commissioner is authorized to charge Deposit Account No. 50-1213, as stated below:

[X] The Commissioner is hereby authorized to charge any fees that may be due under 37 C.F.R. §§ 1.16-1.17 in connection with this paper or with this application during its entire pendency to Deposit Account No. 50-1213. A duplicate of this sheet is enclosed.

Respectfully submitted,
HELLER, EHRMAN, WHITE & McAULIFFE LLP

By: David A. Hall
David A. Hall
Registration No. 32,233

Attorney Docket No.: 21860-6196
Address all correspondence to:
David A. Hall
HELLER EHRMAN WHITE & McAULIFFE LLP
4350 La Jolla Village Dr., Suite 700
San Diego, CA 92122-1246
Telephone: (858) 450-8400 Facsimile: (858) 587-5360
Email: dhall@hewm.com

SD 634477 v1 (21860.6196)

SEP 13 2006

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Haapalahi, T.
Serial No.:	10/600,151
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HELLER, EHRMAN, WHITE & McAULIFFE LLP

By: David A. Hall
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Attorney Docket No.: 21860-6196
Address all correspondence to:
David A. Hall
HELLER EHRMAN WHITE & McAULIFFE LLP
4350 La Jolla Village Dr., Suite 700
San Diego, CA 92122-1246
Telephone: (858) 450-8400 Facsimile: (858) 587-5360
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10/3/03
Date

Jonathan Ong

PRELIMINARY AMENDMENT AND PROPOSED DRAWING CHANGES

Mail Stop Non-Fee Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In advance of the first examination in the above-identified patent application, Applicants request amendment in accordance with 37 C.F.R. § 1.121, as follows:

Amendments to the Specification begin at Page 2 of this paper.

Amendments to the Claims are provided in the listing of the Claims, which begins at Page 4 of this paper.

Remarks begin at Page 17 of this paper.

AMENDMENTS TO THE SPECIFICATION

Please amend the specification as follows:

Please replace the paragraph at page 1, lines 14-23, with the following:

Coaxial resonators can provide improved Q-values over other resonator construction techniques. Figure 1 is a side elevation of a typical coaxial resonator 100 of conventional construction. The Figure 1 resonator includes an inner conductor 102 placed within a cavity 104 that is formed from an enclosure having sidewalls 106, a bottom wall 108, and a top wall 110. The interior surface 111 of the enclosure cavity 104 is conductive. The inner conductor 102 is attached to the enclosure at the bottom wall 108, thereby providing an electric short-circuit path between the ~~cavity enclosure~~ enclosure cavity 104 and the inner conductor 102. The free end 112 of the inner conductor 102 is an open-circuit, providing capacitive coupling between the inner conductor and the inner surface 111 of the ~~cavity enclosure~~ enclosure cavity.

Please replace the paragraph on page 13, lines 1-21, with the following:

Figure 13 is a cross section of another embodiment of the calibration tool. In the Figure 13 embodiment of the calibration tool 610', there is an opening 620' in the calibration tool 610' adapted to receive a retractable support 652. The retractable support 652 is used to ~~located~~ locate the expanding tool 608 a desired distance from the stepped surface 624 of the calibration tool 610'. When used in making planar flanges on an inner conductor of a coaxial resonator, the support 652 is positioned to accept the expanding tool 608. As the conductive body 602 is pressed over the expanding tool 608, the support 652 exerts sufficient force to maintain the expanding tool 608 in a desired position. After the conductive body 602 has been flanged a desired amount the expanding tool 608 is not removed. The guide tool 606 is then pressed down onto the flanged area of the conductive body 602. The pressing force of the guide tool 606 used to form a planar transverse surface is sufficient to overcome the force exerted by the support 652, and the expanding tool 608 moves down into the opening 620' of the calibration tool 610'. The movement of

the expanding tool 608 down into the opening 620' permits flattening the flange into a desired transverse planar surface. The support 652 can be, for example, a spring, a pneumatic electric or magnetic actuator, or other device that can hold the expanding tool in a desired location during the pressing of the conductive body 602 to form a desired flange and then to allow the expanding tool to move out of the way during the pressing of the guide tool to form a planar surface. The retractable calibration tool 610' can be used in place of the tool 610 shown in Figures 9B-9E and 12. A similar substitution applies for the calibration tools in the following description.

Please replace the paragraph on page 24, line 17, to page 25, line 3, with the following:

Figure 31 is a flow diagram of a technique of flanging an array of conductive bodies and attaching the array of conductive bodies as inner conductors in at least one cavity in a single procedure. Process flow begins in block 1602, and at block 1604 a tooling plate that includes an array of flanging tools is positioned in a press. At block 1606 a resonator housing or body that includes at least one cavity is placed over the array of flanging tools such that a flanging tool is inside one or more of the cavities. Process flow continues to block 1608, where a plurality of conductive bodies, each with a first and second end, are inserted through a plurality of holes in the corresponding resonator body cavity walls. The hole in each cavity wall corresponds to the location of the flanging tools so that each flanging tool enters an opening in the first end of an associated conductive body. Flow continues to block 1610.

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of the claims in the application:

Listing of the Claims:

1. (original) An inner conductor for use in a resonator, the inner conductor comprising an elongated conductive body with a flange formed on one end, wherein the flange is formed integrally with the conductive body in a process in which the end of the conductive body is pressed against a flanging tool such that the conductive body is sized and shaped so the flange provides a desired capacitance surface area when used in the resonator.

2. (original) An inner conductor as defined in Claim 1, wherein the formed flange includes a planar transverse surface.

3. (original) An inner conductor as defined in Claim 1, wherein the formed flange comprises a curved surface.

4. (original) An inner conductor as defined in Claim 1, wherein the formed flange is curved backward on itself.

5. (original) An inner conductor as defined in Claim 1, wherein the flanging tool is inserted within an open first end of a conductive body, wherein the conductive

body is pressed over the flanging tool causing the first end of the conductive body to expand, thereby producing a curved flange of a desired size and shape to achieve a desired capacitance surface area for use in a resonator.

6. (original) An inner conductor as defined in Claim 5, wherein the flanging tool comprises:

a guiding tool having a hollow center in which the conductive body can be received;

an expanding tool that is configured to be inserted within the open first end of the conductive body; and

a calibration tool that cooperates with the expanding tool such that pressing the conductive body over the expanding tool causes the first end of the conductive body to expand into the calibration tool, thereby producing a flange having a desired size defined by a collar of the calibration tool such that the flange achieves a desired capacitance surface area when used in a coaxial resonator, wherein pressing the guiding tool on the flange produces a flange surface having a desired shape for the resonator.

7. (original) An inner conductor as defined in Claim 6, wherein the calibration tool further includes a support that holds the expanding tool in position such that pressing the guiding tool onto the flange retracts the expanding tool into the calibration tool so that a desired shape of the flanged surface is achieved.

8. (original) An inner conductor as defined in Claim 7, wherein the calibration tool further includes an annular disk, supported by a retractable support, wherein the annular disk extends around the outer surface of the calibration tool and extends above an upper surface of the calibration tool so as to form a collar, and the annular disk retracts so that pressing the guiding tool onto the flange flattens the flange.

9. (original) An inner conductor as defined in Claim 6, further comprising a flange that is formed on a second end of the conductive body.

10. (original) An inner conductor as defined in Claim 6, wherein the conductive body has a generally cylindrical shape.

11. (original) An inner conductor as defined in Claim 5, wherein the flanging tool comprises:

a guiding tool with a hollow center into which the conductive body can be placed;

an expanding tool that is configured to be inserted within the open first end of the conductive body; and

a calibration tool that cooperates with the expanding tool such that pressing the conductive body over the expanding tool causes the first end of the conductive body to expand into the calibration tool, thereby producing a flange of a desired size, and pressing the guiding tool onto the flange flattens the flange so that it achieves a desired flatness suitable for the resonator.

12. (original) An apparatus for forming an inner conductor for use in a coaxial resonator, the apparatus comprising:

a flanging tool that is inserted within an open first end of a conductive body, wherein the conductive body is pressed over the flanging tool, causing the first end of the conductive body to expand outwardly, thereby producing a curved flange of a desired size and shape to achieve a desired capacitance surface area for use in a resonator.

13. (original) An apparatus as defined in Claim 12, further including a flanging fixture with an array of the flanging tools.

14. (currently amended) An apparatus as defined in Claim 12, wherein the flanging tool comprises:

a guiding tool with a hollow center wherein the conductive body can be placed within the hollow center;

an expanding tool that is configured to be inserted within the open first end of the conductive body; and

a calibration tool that cooperates with the expanding tool such that pressing the conductive body over the expanding tool causes the first end of the conductive body to expand into the calibration tool, thereby producing a flange having a desired size defined by a collar of the calibration tool such that the flange achieves a desired capacitance surface area when used in a coaxial resonator, wherein the guiding tool

can be pressed on the flange to achieve a desired shape of the flange surface.

15. (original) An apparatus as defined in Claim 12, wherein the apparatus forms a flange on a second end of the conductive body.

16. (original) An apparatus as defined in Claim 12, wherein the conductive body has a generally cylindrical shape.

17. (original) A coaxial resonator comprising:

a cavity having side walls and a top wall and a bottom wall;

a conductive body within the cavity, wherein the conductive body has two ends, a first end of the conductive body coupled to the bottom cavity wall and a second end facing the top cavity wall, wherein a flange on the second end of the conductive body is formed integrally with the conductive body in a process in which the end of the conductive body is pressed against a flanging tool such that the conductive body is sized and shaped so the flange provides a desired capacitance surface area when used in the resonator.

18. (currently amended) A coaxial resonator as defined in Claim 17, wherein the flange forming process further includes inserting a flanging tool within an opening in the second end of the conductive body, wherein the conductive body is pressed over the flanging tool, thereby causing the second end of the conductive body to expand

and thereby producing a curved flange of a desired size and shape that provides a desired capacitance surface area for ~~us~~ use in a resonator.

19. (original) A coaxial resonator as defined in Claim 18, wherein the resonator includes a plurality of conductive bodies and the conductive bodies are formed with an array of flanging tools on a flanging fixture.

20. (original) A coaxial resonator as defined in Claim 18, wherein the flange comprises a planar surface.

21. (original) A coaxial resonator as defined in Claim 20, wherein the flanging tool with which the resonator is formed comprises:

a guiding tool with a hollow center wherein the conductive body is placed within the hollow center;

an expanding tool that is inserted within an opening in the second end of the conductive body; and

a calibration tool that cooperates with the expanding tool such that pressing the conductive body over the expanding tool causes the second end of the conductive body to expand into the calibration tool, thereby producing a flange having a desired size defined by a collar of the calibration tool such that the flange achieves a desired capacitance surface area when used in a coaxial resonator, wherein pressing the guiding tool on the flange produces a flange surface having a desired shape for the resonator.

22. (original) A coaxial resonator as defined in Claim 18, wherein a flange is formed on a second end of the conductive body.

23. (original) A coaxial resonator as defined in Claim 18, wherein the conductive body is generally cylindrical.

24. (original) A coaxial resonator as defined in Claim 18, wherein the conductive body is an extrusion.

25. (original) A coaxial resonator as defined in Claim 18, wherein the conductive body is constructed from copper.

26. (original) A coaxial resonator as defined in Claim 18, wherein the conductive body is constructed from soft steel.

27. (original) A coaxial resonator as defined in Claim 18, wherein the conductive body is constructed from brass.

28. (original) A coaxial resonator as defined in Claim 18, wherein the conductive body is constructed from aluminum.

29. (original) A method of making a coaxial resonator, the method comprising:

inserting a plurality of conductive bodies into holes of cavities in a resonator housing, wherein the cavities have side walls and a bottom wall, the holes are located in the bottom wall of the resonator housing, and each of the conductive bodies protrude into the cavities;

placing the resonator housing and conductive bodies onto a flanging fixture, wherein the flanging fixture comprises a plurality of flanging tools arranged so that one of the flanging tools align with each of the plurality of conductive bodies, wherein the flanging tools are inserted within an opening in the protruding end of the each of the corresponding conductive bodies;

pressing the resonator body so that the plurality of conductive bodies are pressed over the flanging tools causing the protruding end of each of the conductive bodies to expand, thereby producing a curved flange of a size and shape to achieve a desired capacitance surface area for use in the resonator;

removing the press and leaving the resonator housing and plurality of conductive bodies on the flanging fixture;

inserting a plurality of clamping bushings into opening ends of the plurality of conductive bodies that are in the base of the resonator housing;

pressing a riveting tool head into each of the corresponding plurality of clamping bushings so that the plurality of clamping bushings attach the plurality of conductive bodies to the base of the resonator.

30. (original) A method as defined in Claim 29, wherein the plurality of conductive bodies comprise multiple shapes.

31. (original) A method as defined in Claim 30, wherein the plurality of conductive bodies comprise multiple lengths from the base of the resonator to the flanged end of the respective conductive bodies.

32. (original) A flanging fixture for use in making a coaxial resonator, the flanging fixture comprising:

a base; and

a plurality of flanging tools arranged in a desired pattern on the base, wherein the flanging tools are of a size and shape so as to produce desired flange shapes on ends of inner conductors in a resonator and the flanging tools are a desired height so as to produce a desired length of the inner conductor from a base of the resonator.

33. (original) A method of making a flanged body for use in a resonator, the method comprising:

placing a conductive body, having a hollow center, within a guiding tool;

inserting a first end of an expanding tool within the hollow center of the conductive body, the expanding tool first end having a first diameter and a second end of the expanding tool having a second diameter, wherein the second diameter is larger than the first diameter and a surface extends from the first diameter to the second diameter; and

forming a flange on a first end of the conductive body by pressing the conductive body over the expanding tool, causing the first end of the conductive body to expand into a flanging fixture to produce a flange of a desired size to achieve a desired capacitance surface area for use in a resonator.

34. (original) A method as defined in Claim 33, wherein the conductive body further includes a second end, the method further comprising:
inserting an expanding tool and forming a flange on the second end of the conductive body.

35. (original) A method as defined in Claim 33, further comprising attaching the conductive body to an internal surface of a cavity of a resonator.

36. (original) A method as defined in Claim 33, wherein the flanging fixture further comprises a collar wherein the collar controls the shape and size of the flange.

37. (original) A method as defined in Claim 33, wherein the conductive body is generally cylindrical.

38. (original) A method as defined in Claim 33, wherein the conductive body is an extrusion.

39. (original) A method as defined in Claim 33, wherein the conductive body is constructed from copper.

40. (original) A method as defined in Claim 33, wherein the conductive body is constructed from soft steel.

41. (original) A method as defined in Claim 33, wherein the conductive body is constructed from brass.

42. (original) A method as defined in Claim 33, wherein the conductive body is constructed from aluminum.

43. (original) An inner conductor for use in a resonator, the inner conductor comprising an elongated conductive body with a flange formed on one end, wherein the flange is formed integrally with the conductive body in a process in which the end of the conductive body is pressed against a flanging tool and the flange is trimmed to be sized and shaped so the flange provides a desired capacitance surface area when used in the resonator.

44. (original) An inner conductor as defined in Claim 43, wherein the formed flange includes a transverse planar surface.

45. (original) An inner conductor as defined in Claim 43, wherein the formed flange comprises a curved surface.

46. (original) An inner conductor as defined in Claim 43, wherein the formed flange is curved backward on itself.

47. (original) An inner conductor as defined in Claim 43, wherein the flange forming process further includes inserting the flanging tool within an open first end of a conductive body, wherein pressing the conductive body over the flanging tool causes the first end of the conductive body to expand, thereby producing a curved flange of a desired size and shape to achieve a desired capacitance surface area for use in the resonator.

48. (original) An apparatus for forming an inner conductor for use in a coaxial resonator, the apparatus comprising:

a guiding tool with a hollow center in which the conductive body can be placed;

an expanding tool that is configured to be inserted within the open first end of the conductive body; and

a calibration tool that cooperates with the expanding tool such that pressing the conductive body over the expanding tool causes the first end of the conductive body to expand into the calibration tool, thereby producing a flange of a desired size,

and pressing the guiding tool onto the flange flattens the flange so that it achieves a desired flatness suitable for the resonator.

49. (original) An apparatus as defined in Claim 48, further including a punch that trims the flange to a desired shape suitable for the resonator.

50. (original) An apparatus as defined in Claim 49, wherein the guiding tool and punch are configured such that pressing the guiding tool so the flange has a desired flatness and trimming the flange with the punch are performed in a single operation.

51. (original) An apparatus as defined in Claim 50, wherein the guiding tool and the punch are a single tool.

REMARKS

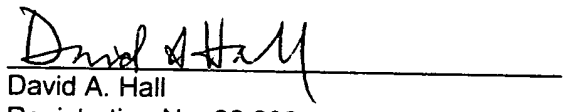
Any fees that may be due in connection with this application throughout its pendency may be charged to Deposit Account No. 50-1213.

The specification is amended to correct obvious typographical errors. In particular, the paragraph on page 1, lines 14-23, is amended to use the phrase "enclosure cavity" more consistently. The paragraph on page 13, lines 1-21, is amended to replace the word "located" with the word --locate-- for grammatical clarity. The paragraph on page 24, line 17, to page 25, line 3, is amended to add the word --of-- for grammatical clarity.

Claims 14 and 18 are amended to correct obvious typographical errors. Claim 14 is amended to add the inadvertently omitted word --that-- for grammatical clarity. Claim 18 is amended to replace the word "us" with the word --use-- for grammatical clarity. No new matter has been added.

In view of the amendments and above remarks, entry of the amendments and examination of the application on the merits are respectfully requested.

Respectfully submitted,
HELLER EHRMAN WHITE & McAULIFFE LLP

By: 
David A. Hall
Registration No. 32,233

Attorney Docket No. 21860-6196
Address all correspondence to:
David A. Hall
HELLER EHRMAN WHITE & McAULIFFE, LLP
4350 La Jolla Village Drive, Suite 600
San Diego, CA 92122-1246
Telephone: (858) 450-8400
Facsimile: (858) 587-5360
Email: dhall@hewm.com

SD 634289 v1 (21860.6196)